

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A beam on demand system comprising:
 - at least one radio;
 - a plurality of amplifiers each having an input switchably coupled with the at least one radio by means of a switch matrix and with at least one beam former, each amplifier having at least one output coupled to at least one antenna in an antenna array; and
 - a controller for receiving an output transmission power level signal from each of the plurality of amplifiers wherein the controller generates a control signal to the switch matrix for coupling or uncoupling an amplifier to the at least one radio to modify at least one angular extent of transmission associated with the radio by modifying the number of antennas coupled to said at least one radio, the control signal being based on the received output transmission power level of the amplifier and a threshold transmission power.
2. (ORIGINAL) The beam on demand system of claim 1 where the controller couples or uncouples an amplifier from the at least one radio based on whether the received transmission power of the amplifier is, above or below the threshold transmission power.
3. (Currently Amended) The beam on demand system of claim 1 where the amplifier and a corresponding antenna element of the antenna array are coupled or uncoupled to or from the at least one radio to modify said at least one angular extent of transmission associated with the radio.
4. (ORIGINAL) The beam on demand system of claim 1 where the control signal is based

on the transmission power level of a group of which the amplifier is a member and a threshold transmission power level established for the group.

5. (PREVIOUSLY PRESENTED) The beam on demand system of claim 1 where the control signal is based on the transmission power level of the amplifier and a threshold transmission power established for the amplifier.

6. (ORIGINAL) The beam on demand system of claim 1 where the threshold is calculated by the controller and the threshold is based on the total average transmission power of a set of amplifiers from the plurality of amplifiers.

7. (Currently Amended) The beam on demand system of claim 1 where the at least one radio is switchably coupled with a set of amplifiers from the plurality of amplifiers and an amplifier is either removed from the set or added to the set based on the threshold transmission power of the set and the transmission power of the amplifier to be added or removed, wherein removing an amplifier from the set decreases the number of antennas coupled to said at least one radio thereby decreasing the angular extent of transmission associated with said at least one radio, and wherein adding an amplifier to the set increases the number of antennas coupled to said at least one radio thereby increasing the angular extent of transmission associate with said at least one radio.

8. (ORIGINAL) The beam on demand system of claim 1 where the controller is a Digital Signal Processor.

9. (ORIGINAL) The beam on demand system of claim 1 where each amplifier output is coupled to an antenna element of the antenna array.

10. (PREVIOUSLY PRESENTED) The beam on demand system of claim 1 where the switch matrix has N inputs and M outputs where N and M are integers equal to 1 or greater and M is greater than N.

11. (PREVIOUSLY PRESENTED) The beam on demand system of claim 1 where the system serves a cell that is part of a wireless communication system.

12. (Currently Amended) A method for automatically allocating system equipment of a communication system, the method comprising the steps of:

providing equipment to serve various portions of the communication system, said equipment comprising a plurality of antenna elements and at least one radio, each portion being characterized by an angular extent of transmission associated with each antenna element;

monitoring the equipment to determine capacity demands of the various portions; and

switching equipment between portions of the communication system using a switch matrix to modify at least one angular extent of the various portions served by the equipment by modifying the number of antenna elements coupled to said at least one radio to meet the capacity demands of the various portions.

13. (ORIGINAL) The method of claim 12 where the step of monitoring equipment further

comprises establishing capacity thresholds for the various portions of the communication system.

14. (ORIGINAL) The method of claim 12 where the step of monitoring equipment further comprises establishing a capacity threshold for each of the provided equipment.

15. (ORIGINAL) The method of claim 12 where the step of switching equipment between portions of the communication system comprises automatically transferring a provided equipment from one portion to another portion to meet the capacity demands of one or both of the portions.

16. (ORIGINAL) The method of claim 12 where the step of switching equipment between portions of the communication system further comprises the steps of:

determining the capacity demand of the portion of the communication system to which equipment is switched; and

switching the equipment to the portion when the capacity demand of the portion is calculated to be below an established capacity threshold even after the equipment has been switched.

17. (Currently Amended) The method of claim 12 where the equipment being switched are amplifiers coupled to the antenna elements of an antenna array and the amplifiers are switchably coupled with said at least one radio by means of beam formers and the switch matrix, wherein the capacity demands are represented by transmission power levels of the amplifiers and the various portions are sectors and/ or sub-sectors of a cell of a wireless communication system.